0570
10/12

OIPE

RAW SEQUENCE LISTING DATE: 12/21/2001
PATENT APPLICATION: US/09/870,962 TIME: 15:26:06

Input Set : N:\Crf3\RULE60\09870962.txt
Output Set: N:\CRF3\12212001\I870962.raw

#12.

ENTERED

```
 7 <110> APPLICANT: Bandman, Olga
 9       Tang, Y. Tom
11       Hillman, Jennifer L.
13       Yue, Henry
15       Guegler, Karl J.
17       Corley, Neil C.
19       Gorgone, Gina
21       Azimzai, Yalda
23       Lu, Aina
27 <120> TITLE OF INVENTION: Protein Kinase Homologs
31 <130> FILE REFERENCE: PF-0614 US
33 <140> CURRENT APPLICATION NUMBER: 09/870,962
35 <141> CURRENT FILING DATE: 2001-05-30
37 <150> PRIOR APPLICATION NUMBER: 09/420,915
39 <151> PRIOR FILING DATE: 1999-10-20
43 <150> PRIOR APPLICATION NUMBER: US 09/173,581
45 <151> PRIOR FILING DATE: 1998-10-15
49 <160> NUMBER OF SEQ ID NOS: 18
53 <170> SOFTWARE: PERL Program
55 <210> SEQ ID NO: 1
57 <211> LENGTH: 297
59 <212> TYPE: PRT
61 <213> ORGANISM: Homo sapiens
W--> 65 <220> FEATURE: -
67 <223> OTHER INFORMATION: 119819
71 <400> SEQUENCE: 1
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75   1               5                  10                  15
77 Leu Arg Asp Leu Gln Arg Leu Glu Ala Met Glu Ala Ala Thr Gln
79                  20                  25                  30
81 Ala Glu Asp Ser Gly Leu Arg Leu Asp Gly Gly Ser Gly Ser Thr
83                  35                  40                  45
85 Ser Ser Ser Gly Cys His Pro Gly Gly Ala Arg Ala Gly Pro Ser
87                  50                  55                  60
89 Pro Ala Ser Ser Ser Pro Ala Pro Gly Gly Gly Arg Ser Leu Ser
91                  65                  70                  75
93 Ala Gly Ser Gln Thr Ser Gly Phe Ser Gly Ser Leu Phe Ser Pro
95                  80                  85                  90
97 Ala Ser Cys Ser Ile Leu Ser Gly Ser Ser Asn Gln Arg Glu Thr
99                  95                 100                 105
101 Gly Gly Leu Leu Ser Pro Ser Thr Pro Phe Gly Ala Ser Asn Leu
103                 110                 115                 120
105 Leu Val Asn Pro Leu Glu Pro Gln Asn Ala Asp Lys Ile Lys Ile
107                 125                 130                 135
109 Lys Ile Ala Asp Leu Gly Asn Ala Cys Trp Val His Lys His Phe
111                 140                 145                 150
113 Thr Glu Asp Ile Gln Thr Arg Gln Tyr Arg Ala Val Glu Val Leu
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RAW SEQUENCE LISTING DATE: 12/21/2001
PATENT APPLICATION: US/09/870,962 TIME: 15:26:06

Input Set : N:\Crf3\RULE60\09870962.txt
Output Set: N:\CRF3\12212001\I870962.raw

```
115                 155                 160                 165
117 Ile Gly Ala Glu Tyr Gly Pro Pro Ala Asp Ile Trp Ser Thr Ala
119                 170                 175                 180
121 Cys Met Ala Phe Glu Leu Ala Thr Gly Asp Tyr Leu Phe Glu Pro
123                 185                 190                 195
127 His Ser Gly Glu Asp Tyr Ser Arg Asp Glu Asp His Ile Ala His
129                 200                 205                 210
131 Ile Val Glu Leu Leu Gly Asp Ile Pro Pro Ala Phe Ala Leu Ser
133                 215                 220                 225
135 Gly Arg Tyr Ser Arg Glu Phe Phe Asn Arg Arg Gly Glu Leu Arg
137                 230                 235                 240
139 His Ile His Asn Leu Lys His Trp Gly Leu Tyr Glu Val Leu Met
141                 245                 250                 255
143 Glu Lys Tyr Glu Trp Pro Leu Glu Gln Ala Thr Gln Phe Ser Ala
145                 260                 265                 270
147 Phe Leu Leu Pro Met Asn Glu Tyr Ile Pro Glu Lys Arg Ala Ser
149                 275                 280                 285
151 Ala Arg Asp Cys Leu Gln His Pro Trp Leu Gln Pro
153                 290                 295
163 <210> SEQ ID NO: 2
165 <211> LENGTH: 287
167 <212> TYPE: PRT
169 <213> ORGANISM: Homo sapiens
W--> 173 <220> FEATURE: -
175 <223> OTHER INFORMATION: 132750
179 <400> SEQUENCE: 2
181 Met Gln Glu Ile Pro Gln Glu Gln Ile Lys Glu Ile Lys Lys Glu
183   1               5                  10                  15
185 Gln Leu Ser Gly Ser Pro Trp Ile Leu Leu Arg Glu Asn Glu Val
187                  20                  25                  30
189 Ser Thr Leu Tyr Lys Gly Glu Tyr His Arg Ala Pro Val Ala Ile
191                  35                  40                  45
193 Lys Val Phe Lys Lys Leu Gln Ala Gly Ser Ile Ala Ile Val Arg
195                  50                  55                  60
197 Gln Thr Phe Asn Lys Glu Ile Lys Thr Met Lys Lys Phe Glu Ser
199                  65                  70                  75
201 Pro Asn Ile Leu Arg Ile Phe Gly Ile Cys Ile Asp Glu Thr Val
203                  80                  85                  90
205 Thr Pro Pro Gln Phe Ser Ile Val Met Glu Tyr Cys Glu Leu Gly
207                  95                 100                 105
209 Thr Leu Arg Glu Leu Leu Asp Arg Glu Lys Asp Leu Thr Leu Gly
211                 110                 115                 120
213 Lys Arg Met Val Leu Val Leu Gly Ala Ala Arg Gly Leu Tyr Arg
215                 125                 130                 135
217 Leu His His Ser Glu Ala Pro Glu Leu His Gly Lys Ile Arg Ser
219                 140                 145                 150
221 Ser Asn Phe Leu Val Thr Gln Gly Tyr Gln Val Lys Leu Ala Gly
223                 155                 160                 165
225 Phe Glu Leu Arg Lys Thr Gln Thr Ser Met Ser Leu Gly Thr Thr
```

RAW SEQUENCE LISTING DATE: 12/21/2001
PATENT APPLICATION: US/09/870,962 TIME: 15:26:06

Input Set : N:\Crf3\RULE60\09870962.txt
Output Set: N:\CRF3\12212001\I870962.raw

```
227                 170                 175                 180
229 Arg Glu Lys Thr Asp Arg Val Lys Ser Thr Ala Tyr Leu Ser Pro
231                 185                 190                 195
233 Gln Glu Leu Glu Asp Val Phe Tyr Gln Tyr Asp Val Lys Ser Glu
235                 200                 205                 210
237 Ile Tyr Ser Phe Gly Ile Val Leu Trp Glu Ile Ala Thr Gly Asp
239                 215                 220                 225
241 Ile Pro Phe Gln Gly Cys Asn Ser Glu Lys Ile Arg Lys Leu Val
243                 230                 235                 240
245 Ala Val Lys Arg Gln Gln Glu Pro Leu Gly Glu Asp Cys Pro Ser
247                 245                 250                 255
249 Glu Leu Arg Glu Ile Ile Asp Glu Cys Arg Ala His Asp Pro Ser
251                 260                 265                 270
253 Val Arg Pro Ser Val Asp Glu Ile Leu Lys Lys Leu Ser Thr Phe
255                 275                 280                 285
257 Ser Lys
267 <210> SEQ ID NO: 3
269 <211> LENGTH: 346
271 <212> TYPE: PRT
273 <213> ORGANISM: Homo sapiens
W--> 277 <220> FEATURE: -
279 <223> OTHER INFORMATION: 507669
283 <400> SEQUENCE: 3
285 Met Gly Cys Gly Cys Ser Ser His Pro Glu Asp Asp Trp Met Glu
287   1               5                  10                  15
289 Asn Ile Asp Val Cys Glu Asn Cys His Tyr Pro Ile Val Pro Leu
291                  20                  25                  30
293 Asp Gly Lys Gly Thr Leu Leu Ile Arg Asn Gly Ser Glu Val Arg
295                  35                  40                  45
297 Asp Pro Leu Val Thr Tyr Glu Gly Ser Asn Pro Pro Ala Ser Pro
299                  50                  55                  60
301 Leu Gln Asp Asn Leu Val Ile Ala Leu His Ser Tyr Glu Pro Ser
303                  65                  70                  75
305 His Asp Gly Asp Leu Gly Phe Glu Lys Gly Glu Gln Leu Arg Ile
307                  80                  85                  90
309 Leu Glu Gln Ser Gly Glu Trp Trp Lys Ala Gln Ser Leu Thr Thr
311                  95                 100                 105
313 Gly Gln Glu Gly Phe Ile Pro Phe Asn Phe Val Ala Lys Ala Asn
315                 110                 115                 120
317 Ser Leu Glu Pro Glu Ala Asn Leu Met Lys Gln Leu Gln His Gln
319                 125                 130                 135
321 Arg Leu Val Arg Leu Tyr Ala Val Val Thr Gln Glu Pro Ile Tyr
323                 140                 145                 150
325 Ile Ile Thr Glu Tyr Met Glu Asn Gly Ser Leu Val Asp Phe Leu
327                 155                 160                 165
329 Lys Thr Pro Ser Gly Ile Lys Leu Thr Ile Asn Lys Leu Leu Asp
331                 170                 175                 180
333 Met Ala Ala Gln Ile Ala Glu Gly Met Ala Phe Ile Glu Glu Arg
335                 185                 190                 195
```

RAW SEQUENCE LISTING DATE: 12/21/2001
PATENT APPLICATION: US/09/870,962 TIME: 15:26:06

Input Set : N:\Crf3\RULE60\09870962.txt
Output Set: N:\CRF3\12212001\I870962.raw

```
337 Asn Tyr Ile His Arg Asp Leu Arg Ala Ala Asn Ile Leu Val Ser
339                 200                 205                 210
341 Asp Thr Leu Ser Cys Lys Ile Ala Asp Phe Gly Leu Ala Arg Leu
343                 215                 220                 225
345 Ile Glu Asp Asn Glu Tyr Thr Ala Arg Glu Gly Ala Lys Phe Pro
347                 230                 235                 240
349 Ile Lys Trp Thr Ala Pro Glu Ala Ile Asn Tyr Gly Thr Phe Thr
351                 245                 250                 255
353 Ile Lys Ser Asp Val Trp Ser Phe Gly Ile Leu Leu Thr Glu Ile
355                 260                 265                 270
357 Val Thr His Gly Arg Ile Pro Tyr Pro Gly Met Thr Asn Pro Glu
359                 275                 280                 285
363 Val Ile Gln Asn Leu Glu Arg Gly Tyr Arg Met Val Arg Pro Asp
365                 290                 295                 300
367 Asn Cys Pro Glu Glu Leu Tyr Gln Leu Met Arg Leu Cys Trp Lys
369                 305                 310                 315
371 Glu Arg Pro Glu Asp Arg Pro Thr Phe Asp Tyr Leu Arg Ser Val
373                 320                 325                 330
375 Leu Glu Asp Phe Phe Thr Ala Thr Glu Gly Gln Tyr Gln Pro Gln
377                 335                 340                 345
379 Pro
389 <210> SEQ ID NO: 4
391 <211> LENGTH: 90
393 <212> TYPE: PRT
395 <213> ORGANISM: Homo sapiens
W--> 399 <220> FEATURE: -
401 <223> OTHER INFORMATION: 1439938
405 <400> SEQUENCE: 4
407 Met Pro Ala Gly Gly Arg Ala Gly Ser Leu Lys Asp Pro Asp Val
409   1               5                  10                  15
411 Ala Glu Leu Phe Phe Lys Asp Asp Pro Glu Lys Leu Phe Ser Asp
413                  20                  25                  30
415 Leu Arg Glu Ile Gly His Gly Ser Phe Gly Ala Val Tyr Phe Ala
417                  35                  40                  45
419 Arg Asp Val Arg Asn Ser Glu Val Val Ala Ile Lys Lys Met Ser
421                  50                  55                  60
423 Tyr Ser Gly Lys Gln Ser Asn Glu Lys Trp Gln Asp Ile Ile Lys
425                  65                  70                  75
427 Glu Val Arg Arg Arg Arg Arg Val Gly Arg Glu Asp Glu Glu Arg
429                  80                  85                  90
439 <210> SEQ ID NO: 5
441 <211> LENGTH: 327
443 <212> TYPE: PRT
445 <213> ORGANISM: Homo sapiens
W--> 449 <220> FEATURE: -
451 <223> OTHER INFORMATION: 1447427
455 <400> SEQUENCE: 5
457 Met Ser Ser Phe Leu Pro Glu Gly Gly Cys Tyr Glu Leu Leu Thr
459   1               5                  10                  15
```

RAW SEQUENCE LISTING DATE: 12/21/2001
PATENT APPLICATION: US/09/870,962 TIME: 15:26:06

Input Set : N:\Crf3\RULE60\09870962.txt
Output Set: N:\CRF3\12212001\I870962.raw

```
461 Val Ile Gly Lys Gly Phe Glu Asp Leu Met Thr Val Asn Leu Ala
463                 20                  25                  30
465 Arg Tyr Lys Pro Thr Gly Glu Tyr Val Thr Val Arg Arg Ile Asn
467                 35                  40                  45
469 Leu Glu Ala Cys Ser Asn Glu Met Val Thr Phe Leu Gln Gly Glu
471                 50                  55                  60
473 Leu His Val Ser Lys Leu Phe Asn His Pro Asn Ile Val Pro Tyr
475                 65                  70                  75
477 Arg Ala Thr Phe Ile Ala Asp Asn Glu Leu Trp Val Val Thr Ser
479                 80                  85                  90
481 Phe Met Ala Tyr Gly Ser Ala Lys Asp Leu Ile Cys Thr His Phe
483                 95                 100                 105
485 Met Asp Gly Met Asn Glu Leu Ala Ile Ala Tyr Ile Leu Gln Gly
487                110                 115                 120
489 Val Leu Lys Ala Leu Asp Tyr Ile His His Met Gly Tyr Val His
491                125                 130                 135
493 Arg Ser Val Lys Ala Ser His Ile Leu Ile Ser Val Asp Gly Lys
495                140                 145                 150
497 Val Tyr Leu Ser Gly Leu Arg Thr Thr Leu Ser Met Ile Ser His
499                155                 160                 165
501 Gly Gln Arg Gln Arg Val Val His Asp Phe Pro Lys Tyr Ser Val
503                170                 175                 180
505 Lys Val Leu Pro Trp Leu Ser Pro Glu Val Leu Gln Gln Asn Leu
507                185                 190                 195
509 Gln Gly Tyr Asp Ala Lys Ser Asp Ile Tyr Ser Val Gly Ile Thr
511                200                 205                 210
513 Ala Cys Glu Leu Ala Asn Gly His Val Pro Phe Lys Asp Met Pro
515                215                 220                 225
517 Ala Thr Gln Met Leu Leu Glu Lys Leu Asn Gly Thr Val Pro Cys
519                230                 235                 240
521 Leu Leu Asp Thr Ser Thr Ile Pro Ala Glu Glu Leu Thr Met Ser
523                245                 250                 255
525 Pro Ser Arg Ser Val Ala Asn Ser Gly Leu Ser Asp Ser Leu Thr
527                260                 265                 270
529 Thr Ser Thr Pro Arg Pro Ser Asn Gly Asp Ser Pro Ser His Pro
531                275                 280                 285
533 Tyr His Arg Thr Phe Ser Pro His Phe His His Phe Val Glu Gln
535                290                 295                 300
537 Cys Leu Gln Arg Asn Pro Asp Ala Arg Tyr Pro Cys Trp Pro Gly
539                305                 310                 315
541 Pro Gly Leu Arg Glu Ser Arg Gly Cys Ser Gly Gly
543                320                 325
553 <210> SEQ ID NO: 6
555 <211> LENGTH: 345
557 <212> TYPE: PRT
559 <213> ORGANISM: Homo sapiens
W--> 563 <220> FEATURE: -
565 <223> OTHER INFORMATION: 1567782
569 <400> SEQUENCE: 6
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VERIFICATION SUMMARY DATE: 12/21/2001
PATENT APPLICATION: US/09/870,962 TIME: 15:26:07

Input Set : N:\Crf3\RULE60\09870962.txt
Output Set: N:\CRF3\12212001\I870962.raw

L:65 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:173 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:277 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:399 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:449 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:563 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:681 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:821 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:885 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:949 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:1019 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:1095 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:1171 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:1267 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:1319 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:1323 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:1339 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:1423 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:1503 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:1593 M:256 W: Invalid Numeric Header Field, <220> has non-blank data